National Flood Hazard Layer FIRMette

FEMA

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN — Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 / 17.5 — Cross Sections with 1% Annual Chance / Water Surface Elevation
- Coastal Transect
- 513 — Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 9/26/2018 at 12:55:11 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

NOTES TO USERS

p is for use in administering the National Flood Insurance Program. It t necessarily identify all areas subject to flooding, particularly from local sources of small size. The **community map repository** should be d for possible updated or additional flood hazard information.

h more detailed information in areas where **Base Flood Elevations** and/or **floodways** have been determined, users are encouraged to consult d Profiles and Floodway Data and/or Summary of Stillwater Elevations ntained within the Flood Insurance Study (FIS) report that accompanies M. Users should be aware that BFEs shown on the FIRM represent whole-foot elevations. These BFEs are intended for flood insurance urposes only and should not be used as the sole source of flood n information. Accordingly, flood elevation data presented in the FIS should be utilized in conjunction with the FIRM for purposes of tion and/or floodplain management.

Base Flood Elevations shown on this map apply only landward of rtical North American Vertical Datum of 1988 (NAVD 88). Users of this ould be aware that coastal flood elevations are also provided in the y of Stillwater Elevations tables in the Flood Insurance Study report for this h. Elevations shown in the Summary of Stillwater Elevations tables should for construction and/or floodplain management purposes when they are ter the elevations shown on this FIRM.

as of the **floodways** were computed at cross sections and interpolated cross sections. The floodways were based on hydraulic considerations and on requirements of the National Flood Insurance Program. Floodway nd other pertinent floodway data are provided in the Flood Insurance ort for this jurisdiction.

areas not in Special Flood Hazard Areas may be protected by **flood structures**. Refer to Section 2.4 "Flood Protection Measures" of the surance Study report for information on flood control structures for this n.

ection used in the preparation of this map was Massachusetts State lane zone (FIPSZONE 2001). meters. The **horizontal datum** was GRS80 spheroid. Differences in datum, spheroid, projection or State nes used in the production of FIRMs for adjacent jurisdictions may result positional differences in map features across jurisdiction boundaries. ferences do not affect the accuracy of this FIRM.

vations on this map are referenced to the North American Vertical Datum. These flood elevations must be compared to structure and ground s referenced to the same **vertical datum**. For information regarding on between the National Geodetic Vertical Datum of 1929 and the erican Vertical Datum of 1988, visit the National Geodetic Survey at http://www.ngs.noaa.gov or contact the National Geodetic Survey at ing address:

rmation Services
/NOS12
Geodetic Survey
#9202
d-West Highway
ring, Maryland 20910-3282
5-3242

n current elevation, description, and/or location information for **bench** shown on this map, please contact the Information Services Branch National Geodetic Survey at **(301) 713-3242**, or visit its website at w.ngs.noaa.gov.

up information shown on this FIRM was provided in digital format by the Geographic and Environmental Information (MassGIS) Commonwealth of ssetts, Executive Office of Energy and Environmental Affairs. This on was derived from digital orthophotos produced at a scale of 1:5,000 m photography dated April 2005.

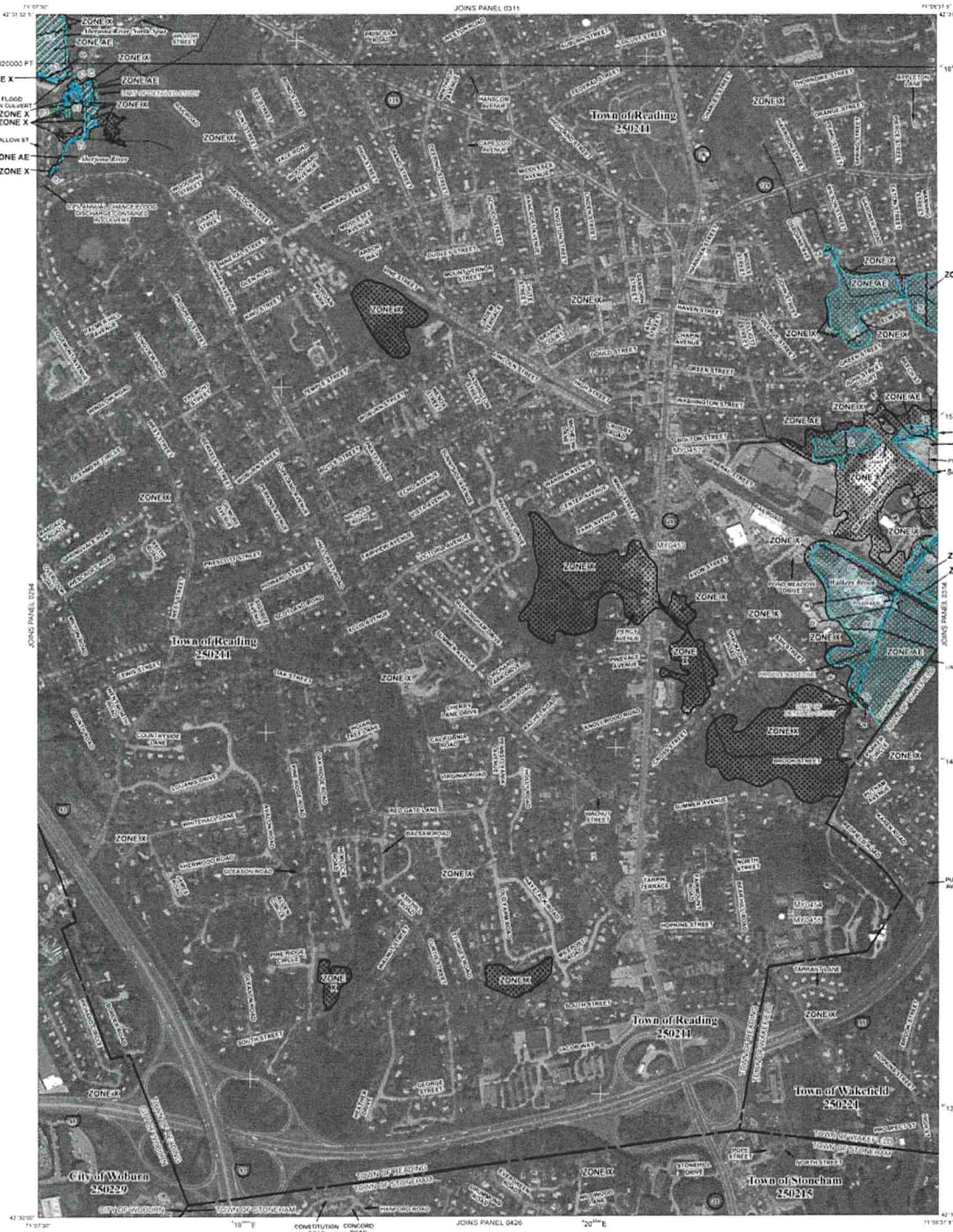
reflects more detailed and up-to-date **stream channel configurations** se shown on the previous FIRM for this jurisdiction. The floodplains and s that were transferred from the previous FIRM may have been adjusted m to these new stream channel configurations. As a result, the Flood and Floodway Data tables in the Flood Insurance Study Report (which authoritative hydraulic data) may reflect stream channel distances that n what is shown on this map.

te limits shown on this map are based on the best data available at the ublication. Because changes due to annexations or de-annexations may urred after this map was published, map users should contact appropriate ty officials to verify current corporate limit locations.

efer to the separately printed **Map Index** for an overview map of the howing the layout of map panels, community map repository addresses, ding of Communities table containing National Flood Insurance Program h each community as well as a listing of the panels on which each ty is located.

the **FEMA Map Service Center** at 1-800-358-9616 for information on products associated with this FIRM. Available products may include y issued Letters of Map Change, a Flood Insurance Study report, and/or sions of this map. The FEMA Map Service Center may also be reached 1-800-358-9620 and its website at http://msc.fema.gov.

ve questions about this map or questions concerning the National Flood s Program in general, please call **1-877-FEMA MAP** (1-877-336-2627) or FEMA website at http://www.fema.gov.



LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUND BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual flood (100-year flood), also known as the base flood, is the flood that h chance of being equaled or exceeded in any given year. The Special Flood Hazard Are areas subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard Zones A, AE, AH, AO, AR, A1, and VE. The Base Flood Elevation is the water elevation of the 1% annual chance flood.

- ZONE A: No Base Flood Elevations determined.
- ZONE AE: Base Flood Elevations determined.
- ZONE AH: Flood depths of 1 to 3 feet (usually areas of ponding); Base Elevations determined.
- ZONE AO: Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); depths determined. For areas of alluvial fan flooding, velocit determined.
- ZONE AR: Special Flood Hazard Area formerly protected from the 1% annual flood by a flood control system that was subsequently decertified. indicates that the former flood control system is being restored to protection from the 1% annual chance or greater flood.
- ZONE A99: Area to be protected from 1% annual chance flood by a Federa protection system under construction; no Base Flood El determined.
- ZONE V: Coastal flood zone with velocity hazard (wave action); no Base Elevations determined.
- ZONE VE: Coastal flood zone with velocity hazard (wave action); Base Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be k of encroachment so that the 1% annual chance flood can be carried without substantial r in flood heights.

OTHER FLOOD AREAS

- ZONE X: Areas of 0.2% annual chance flood; areas of 1% annual chance flo average depths of less than 1 foot or with drainage areas le 1 square mile; and areas protected by levees from 1% annual chanc

OTHER AREAS

- ZONE X: Areas determined to be outside the 0.2% annual chance floodplain
- ZONE D: Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Area

- 1% annual chance floodplain boundary
- 0.2% annual chance floodplain boundary
- Floodway boundary
- Zone D boundary
- CBRS and OPA boundary
- Boundary dividing Special Flood Hazard Area Zon boundary dividing Special Flood Hazard Areas of differe Flood Elevations, flood depths or flood velocities.
- 513 (EL 987): Base Flood Elevation line and value; elevation in feet*
- Base Flood Elevation value where uniform within zone; e in feet*

* Referenced to the North American vertical Datum of 1988

- Cross section line
- Transect line
- 87°07'45", 32°22'30": Geographic coordinates referenced to the North Ame Datum of 1983 (NAD 83), Western Hemisphere
- 4276000 mN: 1000-meter Universal Transverse Mercator grid values, ZO (3
- 600000 FT: 5000-foot grid values: Massachusetts State Plane coordin system, Mainland zone (FIPSZONE 2001), Lambert Confo Conic projection
- DX5510: Bench mark (see explanation in Notes to Users section o FIRM panel)
- M1.5: River Mile

MAP REPOSITORY
Refer to listing of Map Repositories on Map Index

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
June 4, 2010

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

For community map revision history prior to countywide mapping, refer to the Commu Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your Insu Agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 500'

250 0 500 1000 FEET

150 0 150 300 METERS

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0313E

FIRM

FLOOD INSURANCE RATE

MIDDLESEX COUNTY, MASSACHUSETTS
(ALL JURISDICTIONS)

PANEL 313 OF 656
(SEE MAP INDEX FOR FIRM PANEL LA

CONTAINS

COMMUNITY	NUMBER	PANEL
READING, TOWN OF	250211	0311
STONEHAM, TOWN OF	250213	0312
WAKEFIELD, TOWN OF	250231	0314
WOBURN, CITY OF	250229	0316

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community** shown above should be used on insurance applica subject community.

MAP NU
25017C

EFFECTIVE
JUNE

Federal Emergency Management